KW #6

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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/069,082

DATE: 03/21/2003
TIME: 13:45:24

Input Set : A:\P10890US.ST25.txt
Output Set: N:\CRF4\03212003\J069082.raw

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 3 <110> APPLICANT: Quip Technology Limited
 5 <120> TITLE OF INVENTION: Retrovirus Assay
 7 <130> FILE REFERENCE: P10890US
 9 <140> CURRENT APPLICATION NUMBER: US 10/069,082
C--> 10 <141> CURRENT FILING DATE: 2002-10-30
12 <150> PRIOR APPLICATION NUMBER: GB 9919604.0
13 <151> PRIOR FILING DATE: 1999-08-18
15 <150> PRIOR APPLICATION NUMBER: PCT/GB00/03159
16 <151> PRIOR FILING DATE: 2000-08-16
18 <160> NUMBER OF SEQ ID NOS: 19
20 <170> SOFTWARE: PatentIn version 3.1
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 524
24 <212> TYPE: PRT
25 <213> ORGANISM: porcine endogenous retrovirus
27 <400> SEQUENCE: 1
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33 Thr Glu Val Arg Ser Arg Ala His Asn Leu Ser Val Gln Val Lys Lys
34              20                  25                  30
37 Gly Pro Trp Gln Thr Phe Cys Ala Ser Glu Trp Pro Thr Phe Asp Val
38          35                  40                  45
41 Gly Trp Pro Ser Glu Gly Thr Phe Asn Ser Glu Ile Ile Leu Ala Val
42      50                  55                  60
45 Lys Ala Ile Ile Phe Gln Thr Gly Pro Gly Ser His Pro Asp Gln Glu
46 65                  70                  75                  80
49 Pro Tyr Ile Leu Thr Trp Gln Asp Leu Ala Glu Asp Pro Pro Pro Trp
50                  85                  90                  95
53 Val Lys Pro Trp Leu Asn Lys Pro Arg Lys Pro Gly Pro Arg Ile Leu
54              100                 105                 110
57 Ala Leu Gly Glu Lys Asn Lys His Ser Ala Glu Lys Val Glu Pro Ser
58          115                 120                 125
61 Ser Ser Tyr Leu Pro Arg Asp Arg Gly Ala Ala Asp Leu Ala Gly Thr
62      130                 135                 140
65 Pro Thr Cys Ser Pro Thr Pro Leu Ser Ser Thr Gly Cys Cys Glu Gly
66 145                 150                 155                 160
69 Thr Ser Ala Pro Pro Gly Ala Pro Val Val Glu Gly Pro Ala Ala Gly
70                  165                 170                 175
73 Thr Arg Ser Arg Arg Gly Ala Thr Pro Glu Arg Thr Asp Glu Ile Ala
74              180                 185                 190
77 Ile Leu Pro Leu Arg Thr Tyr Gly Pro Pro Met Pro Gly Gly Gln Leu
78          195                 200                 205
81 Gln Pro Leu Gln Tyr Trp Pro Phe Ser Ser Ala Asp Leu Tyr Asn Trp
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82      210                     215                     220
85 Lys Thr Asn His Pro Pro Phe Ser Glu Asp Pro Gln Arg Leu Thr Gly
86 225                     230 .                 235                 240
89 Leu Val Glu Ser Leu Met Phe Ser His Gln Pro Thr Trp Asp Asp Cys
90             245                     250                     255
93 Gln Gln Leu Leu Gln Thr Leu Phe Thr Thr Glu Glu Arg Glu Arg Ile
94             260                     265                     270
97 Leu Leu Glu Ala Arg Lys Asn Val Pro Gly Ala Asp Gly Arg Pro Thr
98         275                     280                     285
101 Gln Leu Gln Asn Glu Ile Asp Met Gly Phe Pro Leu Thr Arg Pro Gly
102     290                     295                     300
105 Trp Asp Tyr Asn Thr Ala Glu Gly Arg Glu Ser Leu Lys Ile Tyr Arg
106 305                     310                     315                 320
109 Gln Ala Leu Val Ala Gly Leu Arg Gly Ala Ser Arg Arg Pro Thr Asn
110             325                     330                     335
113 Leu Ala Lys Val Arg Glu Val Met Gln Gly Pro Asn Glu Pro Pro Ser
114         340                     345                     350
117 Val Phe Leu Glu Arg Leu Met Glu Ala Phe Arg Arg Phe Thr Pro Phe
118         355                     360                     365
121 Asp Pro Thr Ser Glu Ala Gln Lys Ala Ser Val Ala Leu Ala Phe Ile
122     370                     375                     380
125 Gly Gln Ser Ala Leu Asp Ile Arg Lys Lys Leu Gln Arg Leu Glu Gly
126 385                     390                     395                 400
129 Leu Gln Glu Ala Glu Leu Arg Asp Leu Val Arg Glu Ala Glu Lys Val
130             405                     410                     415
133 Tyr Tyr Arg Arg Glu Thr Glu Glu Glu Lys Glu Gln Arg Lys Glu Lys
134         420             ·       425                     430
137 Glu Arg Glu Glu Arg Glu Glu Arg Arg Asp Arg Arg Gln Glu Lys Asn
138         435                     440                     445
141 Leu Thr Lys Ile Leu Ala Ala Val Val Glu Gly Lys Ser Ser Arg Glu
142     450                     455                     460
145 Arg Glu Arg Asp Phe Arg Lys Ile Arg Ser Gly Pro Arg Gln Ser Gly
146 465                     470             ·       475                 480
149 Asn Leu Gly Asn Arg Thr Pro Leu Asp Lys Asp Gln Cys Ala Tyr Cys
150             485                     490                     495
153 Lys Glu Lys Gly His Trp Ala Arg Asn Cys Pro Lys Lys Gly Asn Lys
154         500                     505                     510
157 Gly Pro Lys Val Leu Ala Leu Glu Glu Asp Lys Asp
158     515                     520
161 <210> SEQ ID NO: 2
162 <211> LENGTH: 660
163 <212> TYPE: PRT
164 <213> ORGANISM: porcine endogenous retrovirus Type PERV A
166 <400> SEQUENCE: 2
168 Met His Pro Thr Leu Ser Arg Arg His Leu Pro Ile Arg Gly Gly Lys
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172 Pro Lys Arg Leu Lys Ile Pro Leu Ser Phe Ala Ser Ile Ala Trp Phe
173             20                      25                      30
176 Leu Thr Leu Ser Ile Thr Pro Gln Val Asn Gly Lys Arg Leu Val Asp
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177         35                    40                    45
180 Ser Pro Asn Ser His Lys Pro Leu Ser Leu Thr Trp Leu Leu Thr Asp
181     50                    55                    60
184 Ser Gly Thr Gly Ile Asn Ile Asn Ser Thr Gln Gly Glu Ala Pro Leu
185 65                    70                    75                    80
188 Gly Thr Trp Trp Pro Glu Leu Tyr Val Cys Leu Arg Ser Val Ile Pro
189                     85                    90                    95
192 Gly Leu Asn Asp Gln Ala Thr Pro Pro Asp Val Leu Arg Ala Tyr Gly
193                     100                   105                   110
196 Phe Tyr Val Cys Pro Gly Pro Pro Asn Asn Glu Glu Tyr Cys Gly Asn
197         115                   120                   125
200 Pro Gln Asp Phe Phe Cys Lys Gln Trp Ser Cys Ile Thr Ser Asn Asp
201     130                   135                   140
204 Gly Asn Trp Lys Trp Pro Val Ser Gln Gln Asp Arg Val Ser Tyr Ser
205 145                   150                   155                   160
208 Phe Val Asn Asn Pro Thr Ser Tyr Asn Gln Phe Asn Tyr Gly His Gly
209                     165                   170                   175
212 Arg Trp Lys Asp Trp Gln Gln Arg Val Gln Lys Asp Val Arg Asn Lys
213                     180                   185                   190
216 Gln Ile Ser Cys His Ser Leu Asp Leu Asp Tyr Leu Lys Ile Ser Phe
217         195                   200                   205
220 Thr Glu Lys Gly Lys Gln Glu Asn Ile Gln Lys Trp Val Asn Gly Ile
221     210                   215                   220
224 Ser Trp Gly Ile Val Tyr Tyr Gly Gly Ser Gly Arg Lys Lys Gly Ser
225 225                   230                   235                   240
228 Val Leu Thr Ile Arg Leu Arg Ile Glu Thr Gln Met Glu Pro Pro Val
229                     245                   250                   255
232 Ala Ile Gly Pro Asn Lys Gly Leu Ala Glu Gln Gly Pro Pro Ile Gln
233         260                   265                   270
236 Glu Gln Arg Pro Ser Pro Asn Pro Ser Asp Tyr Asn Thr Thr Ser Gly
237         275                   280                   285
240 Ser Val Pro Thr Glu Pro Asn Ile Thr Ile Lys Thr Gly Ala Lys Leu
241     290                   295                   300
244 Phe Ser Leu Ile Gln Gly Ala Phe Gln Ala Leu Asn Ser Thr Thr Pro
245 305                   310                   315                   320
248 Glu Ala Thr Ser Ser Cys Trp Leu Cys Leu Ala Ser Gly Pro Pro Tyr
249                     325                   330                   335
252 Tyr Glu Gly Met Ala Arg Gly Gly Lys Phe Asn Val Thr Lys Glu His
253                     340                   345                   350
256 Arg Asp Gln Cys Thr Trp Gly Ser Gln Asn Lys Leu Thr Leu Thr Glu
257         355                   360                   365
260 Val Ser Gly Lys Gly Thr Cys Ile Gly Met Val Pro Pro Ser His Gln
261     370                   375                   380
264 His Leu Cys Asn His Thr Glu Ala Phe Asn Arg Thr Ser Glu Ser Gln
265 385                   390                   395                   400
268 Tyr Leu Val Pro Gly Tyr Asp Arg Trp Trp Ala Cys Asn Thr Gly Leu
269                     405                   410                   415
272 Thr Pro Cys Val Ser Thr Leu Val Phe Asn Gln Thr Lys Asp Phe Cys
273                     420                   425                   430
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276 Val Met Val Gln Ile Val Pro Arg Val Tyr Tyr Tyr Pro Glu Lys Ala
277         435             440             445
280 Val Leu Asp Glu Tyr Asp Tyr Arg Tyr Asn Arg Pro Lys Arg Glu Pro
281     450             455             460
284 Ile Ser Leu Thr Leu Ala Val Met Leu Gly Leu Gly Val Ala Ala Gly
285 465             470             475             480
288 Val Gly Thr Gly Thr Ala Ala Leu Ile Thr Gly Pro Gln Gln Leu Glu
289             485             490             495
292 Lys Gly Leu Ser Asn Leu His Arg Ile Val Thr Glu Asp Leu Gln Ala
293         500             505             510
296 Leu Glu Lys Ser Val Ser Asn Leu Glu Glu Ser Leu Thr Ser Leu Ser
297         515             520             525
300 Glu Val Val Leu Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Leu Lys
301     530             535             540
304 Glu Gly Gly Leu Cys Val Ala Leu Lys Glu Glu Cys Cys Phe Tyr Val
305 545             550             555             560
308 Asp His Ser Gly Ala Ile Arg Asp Ser Met Ser Lys Leu Arg Glu Arg
309             565             570             575
312 Leu Glu Arg Arg Arg Arg Glu Arg Glu Ala Asp Gln Gly Trp Phe Glu
313         580             585             590
316 Gly Trp Phe Asn Arg Ser Pro Trp Met Thr Thr Leu Leu Ser Ala Leu
317         595             600             605
320 Thr Gly Pro Leu Val Val Leu Leu Leu Leu Leu Thr Val Gly Pro Cys
321     610             615             620
324 Leu Ile Asn Arg Phe Val Ala Phe Val Arg Glu Arg Val Ser Ala Val
325 625             630             635             640
328 Gln Ile Met Val Leu Arg Gln Gln Tyr Gln Gly Leu Leu Ser Gln Gly
329             645             650             655
332 Glu Thr Asp Leu
333             660
336 <210> SEQ ID NO: 3
337 <211> LENGTH: 638
338 <212> TYPE: PRT
339 <213> ORGANISM: porcine endogenous retrovirus Type PERV MSL
341 <400> SEQUENCE: 3
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344 1           5               10              15
347 Pro Lys Arg Leu Lys Ile Pro Leu Ser Phe Ala Ser Ile Ala Trp Phe
348         20              25              30
351 Leu Thr Leu Ser Ile Thr Ser Gln Thr Asn Gly Met Arg Ile Gly Asp
352         35              40              45
355 Ser Leu Asn Ser His Lys Pro Leu Ser Leu Thr Trp Leu Ile Thr Asp
356     50              55              60
359 Ser Gly Thr Gly Ile Asn Ile Asn Asn Thr Gln Gly Glu Ala Pro Leu
360 65              70              75              80
363 Gly Thr Trp Trp Pro Asp Leu Tyr Val Cys Leu Arg Ser Val Ile Pro
364             85              90              95
367 Ser Leu Thr Ser Pro Pro Asp Ile Leu His Ala His Gly Phe Tyr Val
368             100             105             110
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```
371 Cys Pro Gly Pro Pro Asn Asn Gly Lys His Cys Gly Asn Pro Arg Asp
372         115             120             125
375 Phe Phe Cys Lys Gln Trp Asn Cys Val Thr Ser Asn Asp Gly Tyr Trp
376     130             135             140
379 Lys Trp Pro Thr Ser Gln Gln Asp Arg Val Ser Phe Ser Tyr Val Asn
380 145             150             155                 160
383 Thr Tyr Thr Ser Ser Gly Gln Phe Asn Tyr Leu Thr Trp Ile Arg Thr
384             165             170             175
387 Gly Ser Pro Lys Cys Ser Pro Ser Asp Leu Asp Tyr Leu Lys Ile Ser
388         180             185             190
391 Phe Thr Glu Lys Gly Lys Gln Glu Asn Ile Leu Lys Trp Val Asn Gly
392         195             200             205
395 Met Ser Trp Gly Met Val Tyr Tyr Gly Gly Ser Gly Lys Gln Pro Gly
396     210             215             220
399 Ser Ile Leu Thr Ile Arg Leu Lys Ile Asn Gln Leu Glu Pro Pro Met
400 225             230             235                 240
403 Ala Ile Gly Pro Asn Thr Val Leu Thr Gly Gln Arg Pro Pro Thr Gln
404             245             250             255
407 Gly Pro Gly Pro Ser Ser Asn Ile Thr Ser Gly Ser Asp Pro Thr Glu
408             260             265             270
411 Ser Asn Ser Thr Thr Lys Met Gly Ala Lys Leu Phe Ser Leu Ile Gln
412         275             280             285
415 Gly Ala Phe Gln Ala Leu Asn Ser Thr Thr Pro Glu Ala Thr Ser Ser
416     290             295             300
419 Cys Trp Leu Cys Leu Ala Ser Gly Pro Pro Tyr Tyr Glu Gly Met Ala
420 305             310             315                 320
423 Arg Arg Gly Lys Phe Asn Val Thr Lys Glu His Arg Asp Gln Cys Thr
424             325             330             335
427 Trp Gly Ser Gln Asn Lys Leu Thr Leu Thr Glu Val Ser Gly Lys Gly
428         340             345             350
431 Thr Cys Ile Gly Lys Val Pro Pro Ser His Gln His Leu Cys Asn His
432         355             360             365
435 Thr Glu Ala Phe Asn Gln Thr Ser Glu Ser Gln Tyr Leu Val Pro Gly
436     370             375             380
439 Tyr Asp Arg Trp Trp Ala Cys Asn Thr Gly Leu Thr Pro Cys Val Ser
440 385             390             395                 400
443 Thr Leu Val Phe Asn Gln Thr Lys Asp Phe Cys Ile Met Val Gln Ile
444             405             410             415
447 Val Pro Arg Val Tyr Tyr Tyr Pro Glu Lys Ala Ile Leu Asp Glu Tyr
448         420             425             430
451 Asp Tyr Arg Asn His Arg Gln Lys Arg Glu Pro Ile Ser Leu Thr Leu
452         435             440             445
455 Ala Val Met Leu Gly Leu Gly Val Ala Ala Gly Val Gly Thr Gly Thr
456     450             455             460
459 Ala Ala Leu Val Thr Gly Pro Gln Gln Leu Glu Thr Gly Leu Ser Asn
460 465             470             475                 480
463 Leu His Arg Ile Val Thr Glu Asp Leu Gln Ala Leu Glu Lys Ser Val
464             485             490             495
467 Ser Asn Leu Glu Glu Ser Leu Thr Ser Leu Ser Glu Val Val Leu Gln
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VERIFICATION SUMMARY   DATE: 03/21/2003
PATENT APPLICATION: US/10/069,082   TIME: 13:45:25

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Output Set: **N:\CRF4\03212003\J069082.raw**

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date